

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET (pursuant to NAC 445A.236)

Permittee: GNLV Corporation
P.O. Box 610
Las Vegas, Nevada 89125

Permit: NV0022993 - Renewal

Location: Golden Nugget Hotel & Casino
129 East Fremont Street
Las Vegas, Clark County, Nevada 89101
Latitude: 36° 10' 00" N
Longitude: 115° 08' 30" W
Township 20S, Range 61E, Section 34 MDB&M

Flow: 25 Gallons per minute – Daily Maximum and 30-Day Average
(0.036 million gallons per day)

General: The Permittee has applied for a National Pollutant Discharge Elimination System (NPDES) permit renewal, NV0022993, to continue to discharge groundwater to the Las Vegas Wash via the City of Las Vegas stormdrain system. This permit was originally issued September 9, 1999. The discharge during dewatering system construction and initial NPDES permitting was authorized under temporary permit TNEV99027. The facility includes a 38,000-square foot casino and 1,907 hotel rooms and suites.

Due to a rise in the local groundwater elevation in the late 1990s, a dewatering system was installed below the floor slab to prevent periodic seepage into the basement. The system consists of two parallel, 4-foot deep gravel-filled trenches with 4-inch diameter drain pipes that discharge to a concrete collection sump. The 8-foot deep, 4-foot diameter sump has two 1.5 Hp pumps that are activated by float switches. A sanitary wastewater sump is located in the same basement room as the dewatering sump. A bolted steel cover prevents wastewater spills from entering the dewatering sump.

Description of Discharge: The collected groundwater is pumped from the recovery sump through the force main to a Las Vegas stormdrain system drop inlet. The untreated groundwater is discharged from the stormdrain to the Las Vegas Wash.

The Discharge Monitoring Report data from the 1st Quarter 2002 through the 2nd Quarter 2005, is summarized in the table below:

Parameter	Average	Maximum	Minimum
Flow, gpm	2.8	4.2	2.3
Total Inorganic Nitrogen, mg/L	1.2	4.0	ND
Total Phosphorus, mg/L	0.05	0.21	ND
pH, SU	---	8.1	6.7
Total Dissolved Solids, mg/L	1,520	1,660	1,360
Total Ammonia, mg/L	0.02	0.34	ND

Based on a 1999 analysis of on-site monitoring well water quality, the groundwater had elevated concentrations of aluminum, 19 mg/L; iron, 18 mg/L; lead, 0.036 mg/L; manganese, 0.42 mg/L; and sulfate, 430 mg/L. During initial permitting, these levels were determined to be representative of background concentrations and further monitoring was not required. Chromium, copper, and selenium were detected at concentrations of 0.047 mg/L, 0.013 mg/L, and 0.010 mg/L, respectively. Antimony, arsenic, beryllium, cadmium, mercury, nickel, silver, thallium, and zinc were not detected in the groundwater. In 1999 chloride was present at a concentration of 93 mg/L; nitrate was not detected.

Based on five analyses, the shallow groundwater in the immediate area of the hotel/casino is not impacted by VOCs. No VOCs were detected in 1999, 2003, and 2004 EPA Method 8260B analyses of the groundwater. In the 4th Quarter 2002, naphthalene was detected at a concentration of 25 µg/L. In the 4th Quarter 2001, chloroform was detected at a concentration of 6.8 µg/L. The discharge was not analyzed for VOCs in 2000. Total petroleum hydrocarbons were detected at a concentration of 1.3 mg/L in an on-site monitoring well in January 1999, but were not detected in the 2002, 2003, and 2004 annual analyses.

The Division's Compliance Database lists no discharge limitation exceedances from the first quarter of 2002, the earliest database entry for this permit, through the second quarter of 2005. A review of earlier discharge monitoring reports identified no exceedances.

Receiving Water Characteristics: The receiving water for the untreated groundwater is the Las Vegas Wash via the Las Vegas stormdrain system. The beneficial uses of the Upper Las Vegas Wash as cited at NAC 445A.198 include irrigation, watering of livestock, recreation not involving contact with the water, maintenance of a freshwater marsh, propagation of wildlife, and propagation of aquatic life, excluding fish. The establishment of a fishery is not precluded. Water quality standards for the Upper Las Vegas Wash are specified at NAC 445A.199.

Proposed Effluent Limitations: Samples and measurements taken in compliance with the monitoring requirements specified below shall be taken from:

- i. the flow meter located on the force main from the dewatering collection sump; and
- ii. the sample port on the force main.

The discharge shall be limited and monitored by the Permittee as specified below:

Table 1: Discharge Limitations

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	30-Day Average	Daily Maximum	Sample Location	Measurement Frequency	Sample Type
Flow, gpm	25	25	i.	Continuous	Flow meter
Total Inorganic Nitrogen as N, mg/L	---	20	ii.	Quarterly	Discrete
Total Phosphorus as P, lb/day	< 1.0 ¹		ii.	Quarterly	Discrete
pH, SU	6.5 ≤ pH ≤ 9.0		ii.	Quarterly	Discrete
Total Dissolved Solids, mg/L	Monitor and Report		ii.	Quarterly	Discrete
Total Petroleum Hydrocarbons ² , mg/L	1.0 ³		ii.	Annually ⁴	Discrete
VOC EPA Method 8260 (report all parameters), µg/L	Monitor & Report ⁵		ii.	Annually ⁴	Discrete
Aluminum, Iron, Manganese,	Monitor and Report ⁶		ii.	Annually ⁴	Discrete

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS	MONITORING REQUIREMENTS		
Sulfate, mg/L Lead, µg/L				
Hardness, mg/L as CaCO ₃	Monitor and Report	ii.	Annually ⁴	Discrete
Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Mercury, Nickel, Silver, Selenium, Thallium, Zinc, µg/L	Monitor and Report ⁶	ii.	4 th Quarter 2009	Discrete
Chloride, Nitrate as N, Total Suspended Solids, Total Ammonia as N, mg/L	Monitor and Report	ii.	4 th Quarter 2009	Discrete
Temperature, °C	Monitor and Report	ii.	4 th Quarter 2009	Discrete

Notes:

- 1: Effluent discharge limitation applies April through September, only.
- 2: Purgable and extractable ranges.
- 3: Compounds identified in the annual TPH analysis shall be monitored and reported in the effluent on a monthly frequency until it is demonstrated that TPH is no longer present in the influent.
- 4: To be analyzed in the fourth quarter and submitted to the Division with the Annual Report
- 5: Compounds identified in the annual VOC analysis shall be monitored and reported in the effluent on a monthly frequency until it is demonstrated that all detected VOCs are no longer present in the influent.
- 6: Report all metals as total recoverable.

mg/L:	Milligram per liter.	µg/L:	Micrograms per liter.
gpd:	Gallons per day.	P:	Phosphorus.
N:	Nitrogen.	VOC:	Volatile organic compound.
SU:	Standard units.	°C:	Degrees Celsius.
CaCO ₃ :	Calcium carbonate.	lb/day:	Pounds per day.
EPA:	US Environmental Protection Agency		

Rationale for Permit Requirements: Monitoring requirements for the parameters specified in Table 1 above have been established to ensure that the receiving water, the Las Vegas Wash, is not degraded as a result of the Permittee's discharge of untreated groundwater. Monitoring is required to assure that the groundwater will not impact the beneficial uses of Las Vegas Wash.

Flow: The 30-day average and daily maximum flow effluent discharge limitations, both 25 gpm, are based on the values requested by the Permittee. The dewatering system has a design capacity of 25 gpm using either of the two pumps.

Total Inorganic Nitrogen as Nitrogen (TIN): NAC 445A.199 includes a requirement to maintain existing higher quality TIN standard of 95% of the samples ≤ 20.0 mg/L. The quarterly TIN monitoring of the previous permit is proposed to be retained.

Total Phosphorus as Phosphorus (TP): NAC 445A.199 does not include a total phosphorus standard.

In 1987, a TP total maximum daily load (TMDL) of 434 lb/day was established for the Las Vegas Bay/Wash. The waste load allocations (WLAs) are applicable for only April through September and are based on a target concentration of 0.64 mg/L. WLAs have been assigned only to the Cities of Las Vegas and Henderson and the Clark County Water Reclamation District.

Based on the State's de minimis policy of exempting discharges of less than 1 lb/day TP from the TMDL analysis,

a WLA has not been assigned to this permittee. At the maximum permitted flow of 0.036 MGD, the groundwater TP concentration must exceed 3.33 mg/L to violate the 1 lb/day of the de minimis policy.

The quarterly TP monitoring of the previous permit is proposed to be retained.

pH: NAC 445A.199 includes a single value pH water quality standard for beneficial uses within the range of 6.5 to 9.0 SU. The frequency of pH monitoring is proposed to be reduced from monthly to quarterly.

Total Dissolved Solids (TDS): NAC 445A.199 includes a single value at 180°C TDS standard for beneficial uses of $\leq 3,000$ mg/L. The shallow groundwater with naturally occurring elevated TDS levels would flow to the Wash, if it was not intercepted by the dewatering system, therefore, the TDS standard is not applied to dewatering discharges in this area.

This permit is for the interception and passage of groundwater and thus is exempted under the Colorado River Basin Salinity Control Forum's policy on groundwater interception.

The quarterly TDS monitoring without discharge limitation of the previous permit is proposed to be retained.

Total Petroleum Hydrocarbons (TPH): The 1.0 mg/L TPH limit is the State action level for remediation projects and was applied to this discharge in the previous permit. Continued annual monitoring will verify that a TPH plume has not migrated/been drawn onto the site. Detection of TPH will trigger more frequent analyses and potentially treatment of the captured groundwater.

Volatile Organic Compounds (VOCs): To verify that a VOC plume has not migrated/been drawn onto the site, the proposed permit requires the continuation of annual VOC analyses. Detection of VOCs will trigger more frequent analyses and potentially treatment of the captured groundwater.

Aluminum, Iron, Lead, Manganese, Sulfate: The concentrations of these constituents were elevated in the groundwater sample analyzed at the time of initial permit application. No further analysis was required by the previous permit. Additional data is necessary to determine whether the elevated values are representative of the local shallow aquifer. Due to the low discharge flow volume and the potential that the elevated values are naturally occurring, effluent discharge limitations are not proposed for these constituents.

Hardness: Hardness is not limited in the NAC or by the permit, but is necessary to calculate the lead aquatic life standard, as well as the total ammonia and several of the metals standards. Hardness must be determined at the same frequency as the most frequent analysis of these constituents.

Antimony, Arsenic, Beryllium, Cadmium, Chromium, Mercury, Nickel, Silver, Selenium, Thallium, Zinc: These metals were not detected or, if detected, were well below the appropriate standards using a calculated hardness of 920 mg/L as CaCO_3 in the 1999 analysis. No further analysis was required by the previous permit. Due to the low concentration of these metals in the analyzed groundwater sample, monitoring is proposed to be required once during the term of the permit.

Total Suspended Solids (TSS): NAC 445A.199 includes a TSS water quality standard for beneficial uses of ≤ 135 mg/L. Due to the low TSS in groundwater, TSS monitoring of the discharge is proposed to be required once during the term of the permit.

Total Ammonia as N: NAC 445A.199 does not include an ammonia standard. Since the 1999 issuance of this permit, a total ammonia as N standard, NAC 445A.118, has been adopted.

From the 1st Quarter 2002 through the 2nd Quarter 2005, with a detection limit of 0.3 mg/L, ammonia has been detected once. The 2nd Quarter 2005 discharge ammonia concentration was 0.34 mg/L. This concentration is below the acute water quality criteria for total ammonia for freshwater aquatic life for all pH values within the permitted effluent discharge limitation range. At the maximum three-year pH value, 8.1 SU, and a temperature of 30°C, the maximum temperature value in NAC 445A.118 Table 2, the chronic water quality criteria for total ammonia for waters where freshwater fish in early life stages may be present is 0.773 mg/L. Due to the low ammonia concentration in the groundwater and low discharge flow, total ammonia and temperature are proposed to be monitored once during the five-year term of the permit.

Chloride, Nitrate as N: These constituents were not elevated in the 1999 groundwater analysis but are proposed to be monitored once during the term of the permit due to their value as indicators of aquifer degradation.

Temperature: NAC 445A.199 includes a requirement to maintain existing higher quality temperature standard of zero degrees of temperature increase above water temperature at the boundary of an approved mixing zone except during storm flow conditions. This standard is not proposed to be applied to the discharge.

Temperature is necessary to calculate the total ammonia standard. Temperature must be determined at the same frequency as the most frequent analysis of this constituent.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications that the Administrator may make in approving the schedule of compliance.

-Within forty-five (45) days of the effective date of this permit, the Permittee shall submit a revised Operations and Maintenance Manual stamped by a Nevada licensed Professional Engineer to the Division for review and approval.

Proposed Determination: The Division has made the tentative determination to issue the proposed permit for a period of five (5) years.

Procedures for Public Comment: Notice of the Division's intent to issue a permit authorizing the facility to continue to discharge to surface waters of the State of Nevada subject to the conditions contained within the permit, is being sent to the **Las Vegas Review-Journal** for publication. The notice is also being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. January 30, 2006, a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the Applicant, any affected state, any affected interstate agency, the Regional Administrator of EPA Region IX or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. Any public hearing determined by the Administrator to be held will be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted to accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.238